IN THE CLAIMS

Amend the claims as indicated below.

1   1.   (currently amended) A computer-implemented method for generating a
2   schedule for a plurality of employees with varying skill sets for a time period, wherein
3   the plurality of employees have varying overlapping skill sets that enable them to
4   perform various tasks, and wherein employees are shared across tasks within the time
5   period, the method comprising:
6   receiving a plurality of user inputs to a scheduling program, including a number
7   of employee designations that each refer to a unique employee, and a number of skill
8   sets that each correspond to one of the employee designations; and
9   during the method for generating the schedule, determining an effect on the
10   schedule of an incremental change to the plurality of user inputs, including,
11   _____receiving a user input that changes the number of employee designations
12   by indicating at least one changed employee;
13   _____estimating an effect of the at least one changed employee on effective
14   staffing levels for each of the various tasks; and
15   _____generating estimated effective staffing levels for each of the various
16   tasks.tasks:

1   2.   (original) The method of claim 1, wherein the user input that changes the
2   number of employee designations has an effect chosen from a group including adding at
3   least one employee designation and subtracting at least one employee designation.

1   3.   (currently amended) The method of claim 1, further comprising,
2   determining a number of changes that can be made to the schedule during the scheduling
3   method process without simulating a proposed schedule, wherein determining includes
4   comparing a predetermined amount of allowed error and a cumulative error that results
5   from estimating.

1   4.   (original) The method of claim 3, wherein estimating comprises:

2   calculating a total effective work a changed employee will perform; scaling each

3   task by at least one predetermined factor; and

4   adjusting a work distribution for every unique employee other than the changed

5   employee based upon the total effective work the changed employee will perform.

1   5.   (original) The method of claim 4, further comprising distributing the

2   changed employee's effective work across the plurality of tasks.

1   6.   (original) The method of claim 4, wherein the at least one predetermined

2   factor includes a measure of average time to handle a subtask divided by a number of

3   subtasks per time interval, and a measure of how much work remains in a task based

4   upon results of a previous simulation.

1   7.   (original) The method of 4, wherein calculating a total effective work a

2   changed employee will perform comprises applying a function to: a number of skills of

3   the changed employee; proficiencies of the changed employee; and priorities of the

4   changed employee.

1   8.   (original) The method of claim 4, wherein adjusting the work distribution

2   for every unique employee other than the changed employee includes adjusting an

3   effective contribution to each task worked by one of the other unique employees by a

4   factor reflecting that a different amount of work will be required for tasks worked by the

5   changed employee.

1   9.   (original) The method of claim 1, wherein the schedule is for staffing a

2   call center, and wherein the plurality of employees comprises a plurality of agents.

1   10.   (original) The method of claim 6, wherein the schedule is for staffing a

2   call center, wherein the plurality of employees comprises a plurality of agents, a task

3   comprises a call queue, and a subtask comprises a call.

1   11.   (original) The method of claim 10, wherein the varying skill sets include

2   multiple skills for each agent, and wherein each agent may work on multiple call queues

3   in one time period.

1   12.   (original) The method of claim 1, further comprising dividing the method

2   such that the method is performed on multiple parallel processors comprising, dividing a

3   schedule into time intervals such that a schedule for each of the time intervals is

4   processed by a different processor.

1   13.   (original) The method of claim 1, further comprising dividing the method

2   such that the method is performed on multiple parallel processors comprising,

3   performing the scheduling process on one processor, and performing simulation on

4   multiple different processors.

1   14.   (currently amended) A system for generating a schedule for a plurality of

2   employees with varying skill sets for a time period, wherein the plurality of employees

3   have varying overlapping skill sets that enable them to perform various tasks, and

4   wherein employees are shared across tasks within the time period, the system

5   comprising:

6   at least one server comprising at least one storage device;

7   at least one client processor coupled to the server through a network, wherein the

8   client processor is coupled to a plurality of storage devices, including a storage device

9   that stores instructions that, when executed, cause the at least one client processor to,

10   receive a plurality of user inputs to a scheduling program, including a

11   number of employee designations that each refer to a unique employee, and a number of

12   skill sets that each correspond to one of the employee designations; and

13   _____during execution of the scheduling program, determine an effect on the_

14   _schedule of an incremental change to the plurality of user inputs, including,_

15   _____receive a user input that changes the number of employee_

16   designations by indicating at least one changed employee;

17   _____estimate an effect of the at least one changed employee on_

18   effective staffing levels for each of the various tasks; and

19   _____generate estimated effective staffing levels for each of the various_

20   tasks.

1   15.   (original) The system of claim 14, wherein the storage device that stores

2   the instructions is accessed by the at least one processor through the network.

1   16.   (original) The system of claim 15, wherein the storage device that stores

2   the instructions is the at least one storage device of the server.

1   17.   (original) The system of claim 14, wherein the user input that changes

2   the number of employee designations has an effect chosen from a group including

3   adding at least one employee designation and subtracting at least one employee

4   designation.

1   18.   (original) The system of claim 14, wherein the instructions, when

2   executed, further cause the at least one processor to determine a number of changes that

3   can be made to the schedule during the scheduling process without simulating a

4   proposed schedule, wherein determining includes comparing a predetermined amount of

5   allowed error and a cumulative error that results from estimating.

1   19.   (original) The system of claim 18, wherein the instructions, when

2   executed, further cause the at least one processor to:

3   calculate a total effective work a changed employee will perform;

4   scale each task by at least one predetermined factor; and

5   adjust a measure of effective work for every unique employee other than the

6   changed employee based upon the total effective work the changed employee will

7   perform.

1   20.   (original) The system of claim 19, further comprising distributing the

2   changed employee's effective work across the plurality of tasks.

1   21.   (original) The system of claim 19, wherein the at least one predetermined

2   factor includes a measure of average time to handle a subtask divided by a number of

3   subtasks per time interval, and a measure of how much work remains in a task based

4   upon results of a previous simulation.

1   22.   (original) The system of 19, wherein calculating a total effective work a

2   changed employee will perform comprises applying a function to: a number of skills of

3   the changed employee; proficiencies of the changed employee; and priorities of the

4   changed employee.

1   23.   (original) The system of claim 19, wherein adjusting the work

2   distribution for every unique employee other than the changed employee includes

3   adjusting an effective contribution to each task worked by one of the other unique

4   employees by a factor reflecting that a different amount of work will be required for

5   tasks worked by the changed employee.

1   24.   (original) The system of claim 14, wherein the schedule is for staffing a

2   call center, and wherein the plurality of employees comprises a plurality of agents.

1   25.   (original) The system of claim 21, wherein the schedule is for staffing a

2   call center, wherein the plurality of employees comprises a plurality of agents, a task

3   comprises a call queue, and a subtask comprises a call.

1   26.   (original) The system of claim 25, wherein the varying skill sets include

2   multiple skills for each agent, and wherein each agent may work on multiple call queues

3   in one time period.

1   27.   (original) The system of claim 14, wherein the instructions, when

2   executed, further cause the at least one processor to divide the method such that the

3   method is performed on multiple parallel processors comprising, dividing a schedule

4   into time intervals such that a schedule for each of the time intervals is processed by a

5   different processor.

1   28.   (original) The system of claim 14, wherein the instructions, when

2   executed, further cause the at least one processor to divide the method such that the

3   method is performed on multiple parallel processors comprising, performing the

4   scheduling process on one processor, and performing simulation on multiple different

5   processors.

1   29.   (currently amended) An electromagnetic medium containing executable

2   instructions which, when executed in a processing system, cause the system to generate a

3   schedule for a plurality of employees with varying skill sets for a time period, wherein

4   generating the schedule comprises:

5   receiving a plurality of user inputs to a scheduling program, including a number

6   of employee designations that each refer to a unique employee, and a number of skill

7   sets that each correspond to one of the employee designations; and

8   during execution of the scheduling program, determining an effect on the

9   schedule of an incremental change to the plurality of user inputs, including,

10   receiving a user input that changes the number of employee designations

11   by indicating at least one changed employee;

12   estimating an effect of the at least one changed employee on effective

13   staffing levels for each of the various tasks; and

14   generating estimated effective staffing levels for each of the various tasks.

1   30.   (original) The electromagnetic medium of claim 29, wherein the user
2 input that changes the number of employee designations has an effect chosen from a
3 group including adding at least one employee designation and subtracting at least one
4 employee designation.

1   31.   (original) The electromagnetic medium of claim 29, wherein generating
2 the schedule further comprises, determining a number of changes that can be made to the
3 schedule during the scheduling process without simulating a proposed schedule, wherein
4 determining includes comparing a predetermined amount of allowed error and a
5 cumulative error that results from estimating.

1   32.   (original) The electromagnetic medium of claim 31, wherein estimating
2 comprises:
3   calculating a total effective work a changed employee will perform;
4   scaling each task by at least one predetermined factor; and
5   adjusting a work distribution for every unique employee other than the changed
6 employee based upon the total effective work the changed employee will perform.

1   33.   (original) The electromagnetic medium of claim 32, wherein generating
2 the schedule further comprises distributing the changed employee's effective work across
3 the plurality of tasks.

1   34.   (original) The electromagnetic medium of claim 32, wherein the at least
2 one predetermined factor includes a measure of average time to handle a subtask divided
3 by a number of subtasks per time interval, and a measure of how much work remains in
4 a task based upon results of a previous simulation.

1   35.   (original) The electromagnetic medium of 32, wherein calculating a total
2 effective work a changed employee will perform comprises applying a function to: a

3   number of skills of the changed employee; proficiencies of the changed employee; and

4   priorities of the changed employee.

1   36.   (original) The electromagnetic medium of claim 32, wherein adjusting

2   the work distribution for every unique employee other than the changed employee

3   includes adjusting an effective contribution to each task worked by one of the other

4   unique employees by a factor reflecting that a different amount of work will be required

5   for tasks worked by the changed employee.

1   37.   (original) The electromagnetic medium of claim 29 wherein the schedule

2   is for staffing a call center, and wherein the plurality of employees comprises a plurality

3   of agents.

1   38.   (original) The electromagnetic medium of claim 34, wherein the

2   schedule is for staffing a call center, wherein the plurality of employees comprises a

3   plurality of agents, a task comprises a call queue, and a subtask comprises a call.

1   39.   (original) The electromagnetic medium of claim 38, wherein the varying

2   skill sets include multiple skills for each agent, and wherein each agent may work on

3   multiple call queues in one time period.

1   40.   (original) The electromagnetic medium of claim 29, wherein generating

2   the schedule further comprises dividing the method such that the method is performed on

3   multiple parallel processors comprising, dividing a schedule into time intervals such that

4   a schedule for each of the time intervals is processed by a different processor.

1   41.   (original) The electromagnetic medium of claim 29, wherein generating

2   the schedule further comprises dividing the method such that the method is performed on

3   multiple parallel processors comprising, performing the scheduling process on one

4   processor, and performing simulation on multiple different processors.

1   42.   (new) A computer-implemented method for generating a schedule for a
2 plurality of employees with various overlapping skill sets, the method comprising:
3   initiating an automatic scheduling process that receives employee data as an
4 input;
5   determining whether to simulate a proposed schedule, including measuring a
6 cumulative error of using an estimation function from results of the simulation, and a
7 predetermined allowed error;
8   if it is determined not to simulate the proposed schedule, continuing with the
9 method including evaluating and outputting the proposed schedule;
10   determining whether a change has been made to the employee data;
11   if a change has been made to the employee data, calculating an effective change
12 to staffing levels; and
13   continuing with the method including evaluating and outputting the proposed
14 schedule.

1   43.   (new) The method of claim 42, wherein the skill sets comprise abilities
2 to service different call queues, and wherein calculating the effective change to staffing
3 levels comprises:
4   determining a total effective work a changed employee will perform, wherein a
5 changed employee is selected from a group comprising an added employee and a
6 removed employee; and
7   scaling each of a plurality of call queues to be staffed in accordance with the total
8 effective work of the changed employee.

1   44.   (new) The method of claim 43, further comprising:
2   distributing the changed employee's effective work across the plurality of call
3 queues; and
4   adjusting other employees' effective work in accordance with the total effective
5 work of the changed employee.